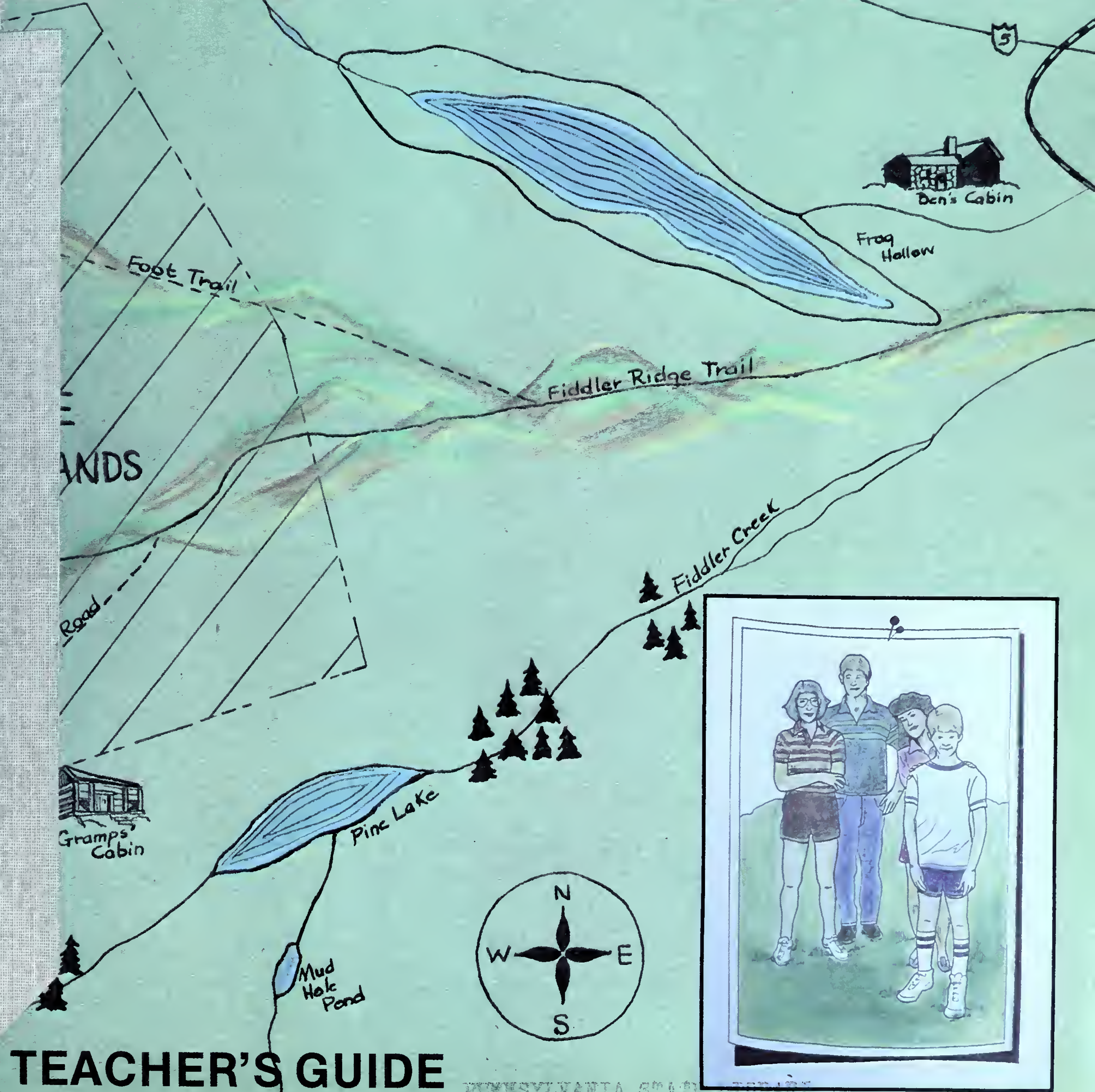
The PHANTOM of Fiddler Creek



TEACHER'S GUIDE

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DOCUMENTS SECTION

DEDICATION

Daisy Klinedinst was a friend and co-worker of environmental educators across the state. Her passing has been a saddening shock; the loss, too sudden.

It is supremely appropriate that this work be dedicated in her memory. She loved Pennsylvania's wild resources and committed her life to teaching youngsters, and oldsters, that understanding our environment was essential. But there is yet another reason.

Daisy was a doer. She was seldom the leader but she worked, usually behind the scenes, to get a job done. She did not try to change the whole world; only the part of it she could touch. She did not work with grand sweeping strokes; only with the small, gentle ones that make the whole more effective.

Like Daisy, the **Phantom of Fiddler Creek** *does not try to change the world; only to help some teacher change some small portion of it for some student. Daisy would have understood that.*

Bill Einsig
Harrisburg, Pennsylvania
October, 1986

How To Use This Manual

Scattered throughout the story of the *Phantom of Fiddler Creek* are numerous "hooks". To me, hooks are small introductions, mere mentions of topics that can be developed into more elaborate lessons or discussions.

A teacher's manual like this one cannot give fully-developed lessons that would be appropriate to a wide variety of grade levels in schools across the state. That kind of lesson design is really part of the creative teacher's job and no one can do it better than classroom teachers who know their own students' interests, abilities and attention spans.

This manual will, however, point out several issues that are of key importance to Pennsylvania's wild resources. Projects are under way in our state that you and your students will be interested in learning about. This manual briefly describes some of them and points the way for those of you who want more information.

Some teachers will find hooks in the *Fiddler* that this manual overlooks. Wild foods, interesting place names, wildlife art, resource careers, and Pennsylvania history are only a few of the starting points for tangents that some teachers will develop into exciting units and courses of their very own.

Here's hoping it works for you!

Endangered Animals in Pennsylvania

Fiddler Connection:

While out boating, Ben's family had an uncommon treat in seeing the osprey. Ospreys migrate through Pennsylvania and may be regular visitors at some lakes and large rivers where they feed on fish. However, we no longer have a large resident population because there are few osprey nests in our state.

If you teach a unit on endangered wildlife, consider focusing your students' attention on the plight, and progress, of the osprey, bald eagle, or peregrine falcon. Real efforts have been made to protect and re-establish these species and current information on the status of the projects is readily available from various state agencies.

You'll find most work being done by the Pennsylvania Game Commission with the bald eagle. That story can help you teach as much about the behavior and natural history of bald eagles as it does about the problem of endangerment.

Background:

The Bald Eagle Recovery Project is designed to restore a breeding population of these magnificent birds to Pennsylvania. Only a few pair of eagles now nest in our state. These are all in the extreme northwestern corner near Lake Pymatuning.

Some eagles winter on the upper Delaware River and others on the lower Susquehanna River between York and Lancaster counties. But these are not nesting birds and, therefore, are not counted as part of our resident population.

The Project uses two reintroduction methods. Both are based on the idea that eagles return to nest in the same general area from which they fledged. Fledging simply refers to the time when the young bird has grown to the point where it can fly and leaves the nest.

One method transfers young eaglets, just a few weeks old, from the Patuxent Wildlife Research Center, in Laurel, Maryland, to an active Pennsylvania nest. These foster eaglets have been readily accepted by the adult eagles and may one day soon return to nest in the Pymatuning area.

The other method will bring eagles to other parts of our state where there are now no active nests. Young eaglets have been captured in Saskatchewan and transferred to hacking towers in Pennsylvania. These towers are eaglet nurseries where the young birds live for about eight weeks until they are ready to fly and feed themselves. During their stay in the hacking towers, the eaglets have no direct contact with humans so that they remain wild and do not become dependent upon their keepers.

In 1983, 12 eaglets were brought from Saskatchewan — six were placed in a tower near the Delaware River and six were sent to a similar tower in the Susquehanna River. The eaglets fledged that summer and left the area. Twelve more eaglets were transferred and reared in each of the three following years so that by the fall of 1986, 48 eaglets fledged from areas of our state which, someday, will be the breeding grounds of those same birds.

Biologists hope to eventually establish two pair of breeding eagles in each of the two hacking areas. In order to do that, they estimate they'll need to fledge 80 birds from the towers over the seven years from 1983, when the project began, to 1989.

Bald eagles reach maturity and begin to breed at four to five years of age. They also develop the characteristic white head and tail feathers at that time. It's possible that, within the next year or two, some of the Canada eagles fledged in 1983 could return to build nests of their own.

Eagle Reward Fund:

Another attempt to restore the Pennsylvania bald eagle population is the Eagle Protection and Reward Fund established by an alliance of wildlife conservation organizations in the state. Federal law allows rewards up to $2500 for information and conviction of anyone molesting, injuring or killing an eagle. In addition, the Eagle Reward Fund provides an additional $1500 reward for similar information.

All hawks, falcons, owls and eagles are protected by both state and federal laws. Convictions can carry fines as high as $5000. The bald eagle is also protected by the Endangered Species Act which provides a fine up to $20,000, one-year imprisonment or both.

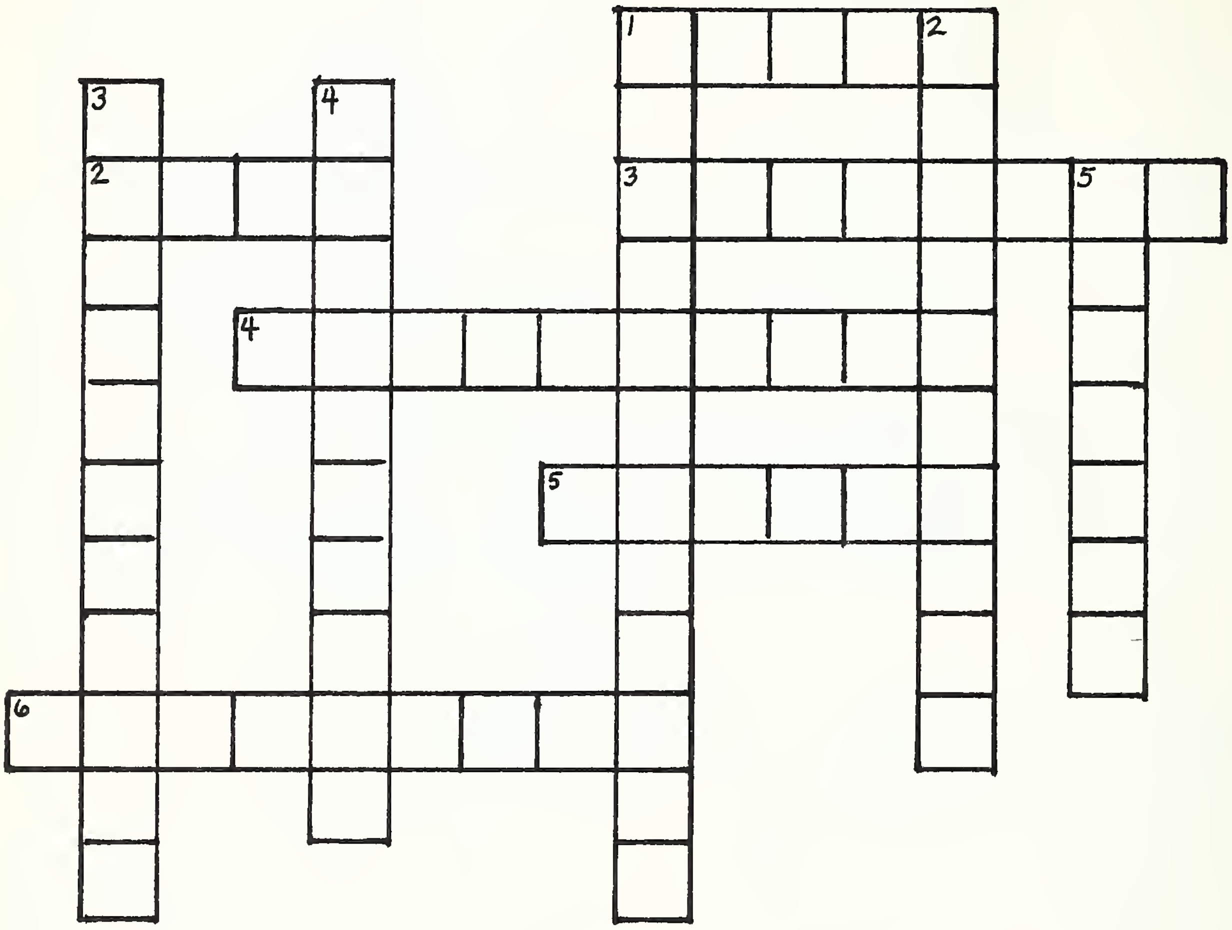
Information Sources:

For more information on bird and mammal species of concern in Pennsylvania, contact: Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, PA 17120.

For more information on amphibian, reptile or fish species of concern in Pennsylvania, contact: Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17120.

For more information on endangered and threatened species nationwide, contact: Office of Endangered Species, U.S. Fish and Wildlife Service, Department of the Interior, Washington, DC 20240.

Pennsylvania Endangered Crossword



ACROSS

1. This bittern is the smallest member of the heron family. Its population is decreasing due to loss of wetland habitat.

2. These graceful birds spend most of their time along the coast, but nest inland. Only a small area in Crawford County has nesting Black -----.

3. This chunky, chicken-size bird lives in marshlands and is rarely seen. It has a yellow bill that curves slightly downward. Its survival depends on protection of marshlands.

4. This is the smallest of the three poisonous snakes found in Pennsylvania. It is found in only a few western counties and has lost much of its habitat.

5. Five species of these animals are in trouble in our state. All of them require water or wetland habitat to survive. Bog, Eastern Mud, and Midland Smooth Softshell are names of the endangered species of -------.

6. Only a few pair of these birds nest in Pennsylvania. However, the Game Commission is transporting young birds of this species from Canada, in hopes they will nest here when mature.

DOWN

1. This fish can grow to be seven feet long and live more than 80 years! It has a row of boney scales on its back and along each side. Water pollution and dams have interrupted its natural reproduction cycle.

2. A species that is likely to become endangered in the future is classified as ----------.

3. This little fish (usually about 2 inches long) lives in saltwater but spawns in freshwater streams. It has three spines on its back, giving it the name of threespine -----------.

4. A species in danger of extinction in the future is classified as ----------.

5. This small bat is the only Pennsylvania mammal listed on the federal endangered species list. It hibernates in caves in the central part of our state. Habitat loss and vandalism are probable causes for its decreasing numbers.

The major reference for this puzzle, and for general information on species of concern in Pennsylvania, is "Endangered and Threatened Species of Pennsylvania" published jointly by the Fish Commission and Game Commission with a supporting financial grant from the Wild Resource Conservation Fund. Request copies from either Commission.

Endangered Plants in Pennsylvania

Fiddler Connection:

At several points in the story, Ben and his family shift their attention to wild plants. Too often, wild plants pass us by without notice. And yet, just as certain animal species are nearing extinction, so are many species of plants.

Consider drawing the attention of your students to endangered plants and help them broaden their understanding of endangerment, its causes, and the steps being taken before species are lost — forever.

Background:

The flora of Pennsylvania is now being studied by botanists looking for species of plants whose survival is threatened. Many such plants have very limited ranges and can live only in habitats that meet precise requirements. Unlike weedy species that can tolerate great differences in light, moisture and pH levels, rare plants are much more demanding of physical characteristics.

As habitats change, the more fastidious plants fail to adapt and die out in that region. Habitat changes, therefore, whether natural or man-made, are the chief causes of plant endangerment.

Habitat Protection:

Pennsylvania is now developing guidelines that will protect critical plant habitat in sanctuaries of two kinds. Private Wild Plant Sanctuaries will be designated at the request of landowners who can show their property meets certain criteria. The land may support a population of rare plants, for instance, or may hold a fragile habitat such as a fen or a bog where only uncommon plant associations can live.

Public sanctuaries will be located on public lands such as state parks and state forests. When vulnerable pockets of plants, or habitat, are identified, they will be set aside with strict regulations controlling management techniques and public access.

Pennsylvania already has 44 Natural Areas scattered across the state. These sites vary in size from the 10-acre Box Huckleberry colony in Perry County to the magnificent Bucktail scenic drive covering almost 16,000 acres in Clinton and Cameron Counties. Most Natural Areas are less than a few hundred acres and protect unusual plant or animal communities, historic sites, geological features or areas with significant scenic beauty.

Teacher Resources:

While it is important to teach students about the need for wild plant protection, trying to build such a unit may be a frustrating experience. Much of the wild plant work in progress is technical or regulatory in nature. Little is appropriate for classroom use.

For the most part, threatened plant species are logically unfamiliar. Unlike the bald eagle, rhinoceros, or Key deer, rare plant names fail to conjur a picture of themselves and don't evoke the same emotional responses wide-eyed mammals do. Students, and, in fact, the general public, have no conception of what these plants are like or what their specific problems are.

To make matters worse, there are currently no photographs or written texts commonly available even for teacher reference. Just telling students that the Annual Fimbry is a threatened plant without being able to illustrate it or describe it in some concrete manner is simply not feasible.

This lack of teaching material is not an error or oversight on anyone's part. Plant endangerment is a relatively new cause and, as such, the first task is to laboriously determine the status of plants throughout the state. Educational materials then follow once the problems and needs can be more clearly defined and when teachers demand such information.

Teachers, then, have to approach the concept of endangered plants differently than they approach endangered wildlife. Rather than using case studies of several threatened species, teachers need to focus on the general problem of plant endangerment — that it exists, that it is usually associated with habitat alteration, and that it is a current topic undergoing rapid development. It's an issue we'll hear much more about in the few years ahead.

Information:

For more information on endangered plants and the progress of the work to protect them, contact: Bureau of Forestry—F.A.S., P.O. Box 1467, Harrisburg, PA 17120.

Vulnerable Plant Word Find

Directions: This word find contains the names of fifteen Pennsylvania Plants that are rare and deserve protection. Can you find them all?

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P L Y R R E B E S O O G H B R O C
  T I N K B E R R Y N I J E D S T V
    D T H E E D I E S I N B C O R T A
    A Z C A I N S L W I F R M S I N E
    S O K C F N L L S O M R U X O M W
      E D H I K N O W U B P D I N F Y X
      W J G S I M W A T E R W O R T Q U
      S P R L E N L E I N T O E I N W P
        J A I N B A E Y B U R I N Y T R B
        W S P L E D N U B W T G H U T C E
          S A N T Y S E D E E R P O X L Q R
          T W O N S U C H I N K A P I N O A K
          I K N I L W I U N Y T H E O H T T M
            C S V I E R F G P O A G R A S S U B
            W H Y P X D I D E E W D N O P D E S
            Y E I P F L C H B J I E T I B B A R
              F C E C I L R L A E S N E D L O G N
              A R R O W H E A D K I N F O I B T E
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PONDWEED

POAGRASS

YELLOW LADY SLIPPER

GOLDENSEAL

GINSENG

ARROWHEAD

WILD RICE

CHINKAPIN OAK

GOOSEBERRY

WATERWORT

BEACHGRASS

SEDGE

LOTUS

INKBERRY

MUDWORT

Health and Safety in the Outdoors

Fiddler Connection:

Ben and his family encountered several challenges to their health and safety during this camping weekend. The lost teenagers, the poisonous rattlesnake and the need to wear PFD's while boating all point to potentially dangerous situations that could spoil an outing or even lead to serious problems.

However, Ben's family had an exciting weekend adventure in Pennsylvania's forest because they understood the dangers and were prepared to deal with them. That should also be true of all outdoor enthusiasts.

These incidents were included in the story to give teachers the opportunity to discuss them with students. The incidents should not frighten anyone nor keep them from exploring the state's wildest areas. But any outdoor adventure is more enjoyable, and safer, if we take the time to learn how to avoid trouble.

Background:

Pennsylvania Snakes

There are twenty-one kinds of snakes in Pennsylvania. Only three of these are poisonous—the timber rattlesnake, copperhead and massasauga. All are capable of inflicting painful, dangerous bites.

However, none of the poisonous snakes are as abundant as we sometimes believe. Most hunters, hikers and fishermen never see a poisonous snake during their outings and the snakes try their best to avoid humans. Ben's rattler, then, was a rare find; one not likely to be encountered by the average camper.

The massasauga (or swamp rattler) lives in only a few counties of northwestern Pennsylvania. The range of the timber rattler covers most of the state's mountains but, even there, it has become rare in many areas. In fact, the timber rattler may be headed for a future threatened species list. The copperhead occurs throughout the southern two-thirds of the Commonwealth.

Certain non-poisonous snakes are very common in the right habitat. Queen snakes and northern water snakes are common sights around streams and ponds. Black rat snakes are abundant predators throughout woodlots and old fields. Of course, common garter snakes might show up almost anywhere.

While these snakes are not poisonous, it would be a mistake to consider them "not harmful." Many non-poisonous snakes can inflict painful bites when they feel threatened. Garter and northern water snakes have reputations for nasty dispositions and will strike quickly to protect themselves.

It's often said "The only good snake is a dead snake!" That was Ben's first thought when he spotted the rattlesnake. Fortunately, his parents felt differently. They knew the snake was potentially dangerous and deserved careful respect. They also knew the snake, like most wild animals, would escape without conflict if given the chance.

Ben's family did not taunt the snake. They didn't try to catch it or use sticks to keep it within their circle. They knew all those actions were dangerous so they simply waited to let the snake pass.

Wild Foods and Poisonous Plants

The idea of "living off the land" has a certain naive romance that attracts youngsters. It's true there are many plants that are edible and quite tasty if properly prepared. However, it's also true there are plants that should be considered poisonous because they can make us ill or can even be fatal.

Knowing the difference between edible and poisonous plants requires some prior study and experience. There are field guides available to help distinguish one group from another but the best way to learn what is good and what is not is from someone who already knows.

But learning takes time, and most of us don't care to invest the time to recognize many plants. If that's the case, then use these few simple guidelines to avoid plants that could make you sick.

First, don't eat unknown plants as an experiment. Your wild salad creation could make you ill. Second, don't assume that a berry, or leaf, that resembles an edible one, is also edible. Pokeberries might look like bunches of grapes but don't eat them! Finally, don't casually chew on leaves or stems as you walk along the trail unless you know exactly what you have. If there's any doubt, leave it alone.

A few plants cause skin irritations on some allergic individuals. Poison ivy is the most common and widespread of these plants. Poison oak and poison sumac are often blamed but the culprit is probably one of the many forms of poison ivy. Some even blame the tall, red-fruited sumac trees for their discomfort. Actually, those trees are not poisonous at all—although you may have great difficulty making anyone believe

The Great Outdoor Safety Test

Directions: Read each question carefully and then choose the best answer. Some of the questions have more than one answer and some answers are neither right nor wrong. So be ready to explain your choices!

1. **If you encounter a snake blocking the trail ahead of you, would you:**

a. scare it away without harm
b. kill it
c. watch it from a safe distance
d. capture it

2. **When hiking in snake country, what is the best advice for avoiding snakebite?**

a. watch where you put your hands and feet
b. carry a weapon
c. make a lot of noise
d. never leave the marked trail

3. **Three of these plants are edible but one is deadly poisonous. Which is the poisonous one?**

a. black medick
b. water hemlock
c. water parsnip
d. spring beauty

4. **What is the best way to avoid plant poisoning?**

a. never eat unknown wild plants
b. never eat wild plants
c. eat wild plants only in an emergency
d. eat only small portions of unknown wild plants

5. **Do you know how to use a topographic map and magnetic compass?**

a. yes
b. no

6. **What would you do if you became lost in the forest?**

a. stay in one spot
b. try to find a way out
c. signal for help
d. keep calm and be patient

7. **Which is the best way to avoid the risk of becoming seriously lost?**

a. carry a signal whistle
b. plan carefully for your trip
c. let someone know where you've gone and when you're expected home
d. carry a magnetic compass

8. **Suppose you and three friends who wanted to go boating found only three life jackets in the boat. Would you:**

a. give the life jackets to the poorest swimmers?
b. postpone the trip until you found another life jacket?
c. let the life jackets lay in the boat so you could each grab them in case of an accident?
d. limit the ride to only three passengers at a time?

9. **Cold water is very dangerous. How long could you remain conscious in water near the freezing point even with a life jacket?**

a. 15 minutes
b. 30 minutes
c. 60 minutes
d. 120 minutes

10. **Which is the best way to avoid unsafe situations in the outdoors?**

a. plan ahead; be prepared!
b. plan ahead; be prepared!
c. plan ahead; be prepared!
d. plan ahead; be prepared!

The Wild Resource Conservation Fund has been established by the Pennsylvania Legislature to help finance non-game wildlife and native wild plant programs. These programs are carried out by the Commonwealth's three environmental agencies: the Fish Commission, the Game Commission, and the Department of Environmental Resources. These agencies have the responsibility for managing and protecting all the renewable natural resources within the state's borders.

Pennsylvania was the eighteenth state to adopt the "tax check off" in 1982. Now 33 states have enacted similar funding methods for renewable natural resources.

Act 1982-170 is unique because it protects and manages native wild plants. Important research on Pennsylvania's native flora is underway to identify special wild plant populations.

Your contributions have helped re-establish nesting osprey in Pennsylvania. Also, river otters have been reintroduced into their native habitat in the central part of the state. Field studies have been undertaken to collect information on rare amphibians, reptiles, and many species of non-game fish. Some of these species are becoming threatened and endangered by the loss of habitat.

Historically, license fees paid by sportsmen have financed the operation of the Fish and Game Commissions. Many non-game species benefited from game management practices. The Wild Resource Conservation Fund provides an opportunity for all Pennsylvanians to share in the effort to protect and manage our non-game wildlife and native wild plants.

We hope this teaching tool will increase the awareness of your students to Pennsylvania's many natural wonders, and create a better understanding of the Wild Resource Conservation Fund. When it comes time to complete your state tax form, please consider a direct contribution to the fund.

Written by Bill Einsig.
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